Chapter 8

AIRCRAFT HANGAR PAVEMENTS

8.1. General Requirements. Hangars provide space for various aircraft activities: scheduled inspections; landing gear tests; weighing of aircraft; major work and maintenance of fuel systems and airframes; and technical order compliance and modifications. These activities can be more effectively accomplished while the aircraft is under complete cover. Pavement for hangar floors must be designed to support aircraft loads. Hangars provide covered floor space to accommodate aircraft. Clearance must be provided between the aircraft and the door opening, walls, and ceiling of the hangar. This chapter does not apply to the Navy and Marine Corps other than to provide applicable Navy publications where additional information may be found.

8.2. Aircraft Modules Space. Table 8.1 presents the dimensions and sizes of modules for various Army aircraft. These modules are used to determine hangar size.

Table 8.1. Aircraft Space Module for Army Aviation Facilities.*

Type of Aircraft**	Dimension					
	Length		Width		Module	
	Meters	Feet	Meters	Feet	Square Meters	Square Feet
UH-1, AH-1, OH-58 (2 Blades)	23.5	77	9.1	30	215	2,310
UH-1 (4 Blades)	23.5	77	16.5	54	386	4,158
UH-60 (4 Blades)	25.6	84	19.5	64	499	5,376
AH-64 (4 Blades)	23.5	77	18.3	60	429	4,620
OH-58 (4 Blades)	23.5	77	13.7	45	322	3,465
CH-47 (6 Blades Tandem)	33.5	110	21.3	70	715	7,700
C-12 Fixed Wing	19.5	64	19.8	65	386	4,160

* Aircraft space modules shown in the table have been derived by adding approximately 6 meters [20 feet] to the aircraft width and length dimensions, thus providing a 3-meter [10-foot] wide buffer/work space around each aircraft.

** Equate aircraft such as U-6, U-8, and U-21 to C-12; equate C-23 to C-12; equate AH-1S to UH-1 (4 blades).

NOTE: Metric units apply to new airfield construction, and where practical, modifications to existing airfields and heliports, as discussed in paragraph 1.4.4.

8.3. Hangar and Shelter Clearances. The interior design of covered shelters must include the clearances between aircraft and door opening, walls, and ceiling, and also parking clearances between other aircraft. These clearances are essential to ensure aircraft are protected aircraft from structural damage. The clearances allow personnel to maneuver more easily during aircraft maintenance. Hangar and alert/hardened shelter clearance information is presented in Table 8.2.

8.4. Hangar Floor Design. Hangar floors will be designed as pavements in accordance with TM 5-825-3 for Army, AFJMAN 32-1014 for Air Force, and MIL-HDBK 1028-1A for Navy, and constructed of rigid pavement. Hangar floors must be designed for cribbing. Jacks must not be used to lift and support aircraft; therefore, designs incorporating the use of jacks must not be used in the design analysis. Signs will be posted in hangars to inform personnel on the use of cribbing.

Table 8.2. Aircraft Clearances Inside Hangars. (See note 1.)

Aircraft Element		Minimum Clearances from Hangar Elements					
		Door		Walls		Roof Framing (See note 2.)	
		Meters	Feet	Meters	Feet	Meters	Feet
Wingtip	Under 30 m [100 ft] span	3	10	3	10	--	--
Fuselage	Under 30 m [100 ft] span	3	10	3	10	3	10
Wingtip	Over 30 m [100 ft] span	3	10	4.5	15	--	--
Fuselage	Over 30 m [100 ft] span	3	10	4.5	15	3	10
Tail	Vertical	2	7	--	--	3	10
Tail	Horizontal	3	10	3	10	3	10

Notes:

1. Clearances between aircraft components should be at least 3 meters [10 feet] where two or more aircraft are housed. None of the above clearances requires a waiver for existing facilities. The above clearance data are also applicable to alert and hardened aircraft shelters.
2. Clearance over aircraft when pulled into a hangar.

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